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Indigenous Building Practices of Himachal Pradesh

Technical Report · January 2013

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Application and Collaboration

DICRC

Indigenous Building Practices of Himachal Pradesh

Collaborative Projects

About Research Projects

DICRC takes up research projects in various fields related to architecture and craft.

In order to do the research it collaborates with different university or professionals. Cross-fertilization is encouraged between more experienced scholars and junior researchers working together on the same project to generate outstanding research. This area plays a strong role in development of research element of DICRC's, both at programmatic and institutional level.

To do research projects we identify project and appropriate funding agencies.

Indigenous Building Practices of Himachal Pradesh

Application and Collaboration

Research Projects

DICRC

Design Innovation and Craft Resource Centre (DICRC), CEPT University, Ahmedabad, India

List of other research projects conducted:

Indigenous Building Practices of Kumaon, Uttarakhand

DICRC

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Design Innovation and Craft Resource Centre (DICRC)
CEPT University , Ahmedabad, India.

Contents

01) Pre - field work 01

Preparations 02

02) Fieldwork 05

Field work route 06

On-site investigation 08

Interaction with locals and *mistris* 10

Glimpses of places visited 13

03) Research and analysis 19

Panoramic reconstruction 20

3D reconstructions 22

04) Dissemination 25

Field-work report 26

Website 27

Published journals 28

Published articles 30

Presentations 31

Exhibition in Wunderlich gallery 32

Exhibition at Hutheesing gallery 34

Exhibition display 36

Press coverage 38

Book: Prathaa 40

05) Award 43

Zumtobel Group Award 44

Team Members

Prof. Bharat Dave completed doctoral studies at the Swiss Federal Institute of Technology (ETH), Zurich, master's program at the Carnegie Mellon University, Pittsburgh (USA), and undergraduate studies in architecture at the School of Architecture, Ahmedabad (India). Funded by nationally competitive grants, his research revolves around innovative spatial design practices and futures supported by digital technologies.

Jay Thakkar is an A/Prof. at Faculty of Design and Head of Research at Design Innovation and Craft Resource Centre (DICRC) at CEPT University, Ahmedabad, India. He has a Masters in Visual Communication from the Birmingham Institute of Art and Design (BIAD), United Kingdom and a Diploma in Interior Design from the School of Interior Design, CEPT University. Jay Thakkar is a co-author/author and designer of two books 1. "Matra: Ways of Measuring Vernacular Built Forms of Himachal Pradesh" (2008) (co-authored with Dr. Skye Morrison) and 2. "Naqsh: The Art of Wood Carving of Traditional Houses of Gujarat – Focus on Ornamentation" (2004).

Mansi Shah is a senior researcher at DICRC, CEPT University, Ahmedabad, India. She completed her Master's degree in 2010 in Urban design at the Domus Academy (Milan, Italy), validated and awarded by the University of Wales, Cardiff, U.K. She completed her undergraduate degree in architecture from South Gujarat University, Surat (India). Her project "Beyond Green" a guerrilla idea to promote green movement was displayed during 'Salone del mobile', a design festival in Milan in 2010.

Illustrations and fieldwork assistance

Soumya Basnet, Victor Bunster, Rishi Soni, Tarang Sagara

Overview

This is a research project on a distinctive traditional building technique called the *kath-khuni* construction prevalent in Himachal Pradesh, India. This indigenous tradition of construction reflects excellent sustainable and earthquake-resistant building techniques using local materials and human resources.

The indigenous building traditions such as *kath-khuni* construction now face gradual erosion due to the increasing loss of local building skills and knowledge, and displacement of local natural building materials with a growing influx of non-indigenous ones that may be cheaper initially but turn out more expensive in the long run. This project aims to help preserve and sustain *kath-khuni* building techniques and local skills by undertaking collaborative research on existing and emerging building practices.

This project is part of a planned series of research and documentation activities to disseminate knowledge about indigenous building practices and heritage of India. The research is a collaborative project and was initiated in 2011 between researchers based in DICRC (Design Innovation and Craft Resource Centre) in the Faculty of Design, CEPT University, Ahmedabad, India and in CRIDA (Critical Research in Digital Architecture) in the Faculty of Architecture, Building & Planning, The University of Melbourne, Australia. The project is supported in part by the Australia India Institute based at the University of Melbourne.

Collaborations

THE UNIVERSITY OF MELBOURNE

Critical Research in Digital Architecture (CRIDA)
The University of Melborne

DiCRC

Design Innovation & Craft Resource Centre
CEPT University, Ahmedabad

Australia India Institute

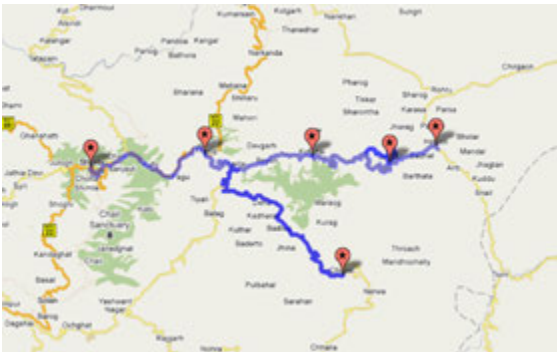
Australia India Institute, Australia

Pre- Field work

Preparations

To collect data in the field within a limited time, we undertook several preparatory tasks prior to embarking on the actual fieldwork.

Day	Date	Place	Alt. (mts)
1	21-Jun-11	Ahmedabad	49
		Shimla	2205
2	22-Jun-11	Shimla	2205
		Janog	1980
		Sainj	1412
3	23-Jun-11	Sainj	1412
		Balag	1340
		Ghodna	1290
		Sarahn-Chopal	2165
4	24-Jun-11	Sarahn-Chopal	2165
		Hatkoti	1400
5	25-Jun-11	Devidhar	
		Gawas	2267
		Hatkoti	1400
6	26-Jun-11	Pujarli 4	1948
		Jubbal	2084
		Harkoti	1400
7	27-Jun-11	Hatkoti	1400
		Summerkot	2103
		Pujarli 7	2100
		Rampur	1041
8	28-Jun-11	Rampur	1041
		Sangla	2680
9	29-Jun-11	Kamru	2800
		Chitkul	3460
		Sangla	2680
10	30-Jun-11	Nirmand	1534
		Nirath	945
11	1-Jul-11	Nirath	945
		Shimla	2205
12	2-Jul-11	Shimla	2205
13	3-Jul-11	Ahmedabad	49



Itinerary

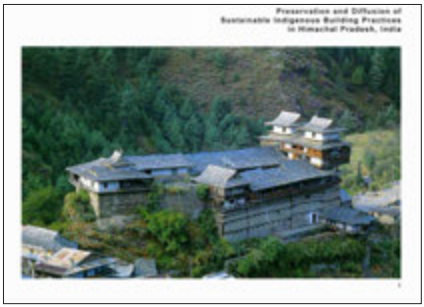
Tentative itinerary based on locations of interest were identified in our background research. The itinerary, in turn, helped identify specific information about topography and landscape including distances that were expected to be travelled and sites to be visited.

Maps

We carried several different maps at various scales of Himachal Pradesh sourced from books, travel shops and government agencies. However, detailed and reliable village level maps of many parts of this mountainous landscape are not yet available. Quite often during our fieldwork, the way to reach a destination was identified or sketched out with the help of local people as we travelled on the road.

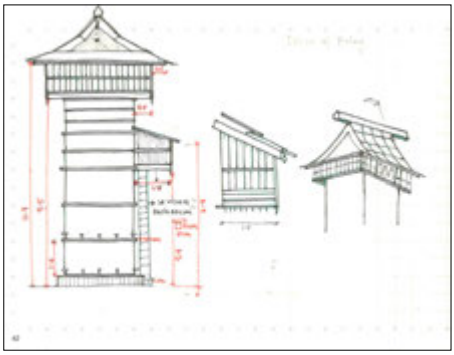
Fieldwork equipment

A kit of tools was assembled to carry out the documentation process. Key tools and gadgets included different sizes of measure tapes, graph papers, stationary, still and video cameras with accessories, dictaphone, distance laser meter, panoramic tripod, flashlight, and digital media for daily data backup.



Field-work planning diary

To familiarize and prepare ourselves for fieldwork data collection, the following field-work diary was compiled. It contains information drawn from sources at hand. Inevitably, some of the information turned out to be not so accurate. Even our travel route changed while on the field



Fieldwork

Fieldwork route

In order to understand and document the multifaceted aspects of indigenous building practices in Himachal Pradesh, the research was carried in a number of sites in an arc from Shimla to Chitkul in Kinnaur district, in the south-east corner of Himachal Pradesh. Fieldwork route and the places visited.

100

Nichar

Karchham

Kamru (2800 mts)

16

2

15

Sangla
(2680 mts)

26

Chitkul (3460 mts)

17

Chirgaon

9

Bhatiyara

Dhum ghat

Bhatvadi

15

Hingvada

9 Gawas (2267 mts)

Govind Pashu
National Park

Mori

Kharsari

Gundet

Pora

Gaon

Parola

Aghora

Paunthi

Barkot

NH 22

NH 94

NH 108

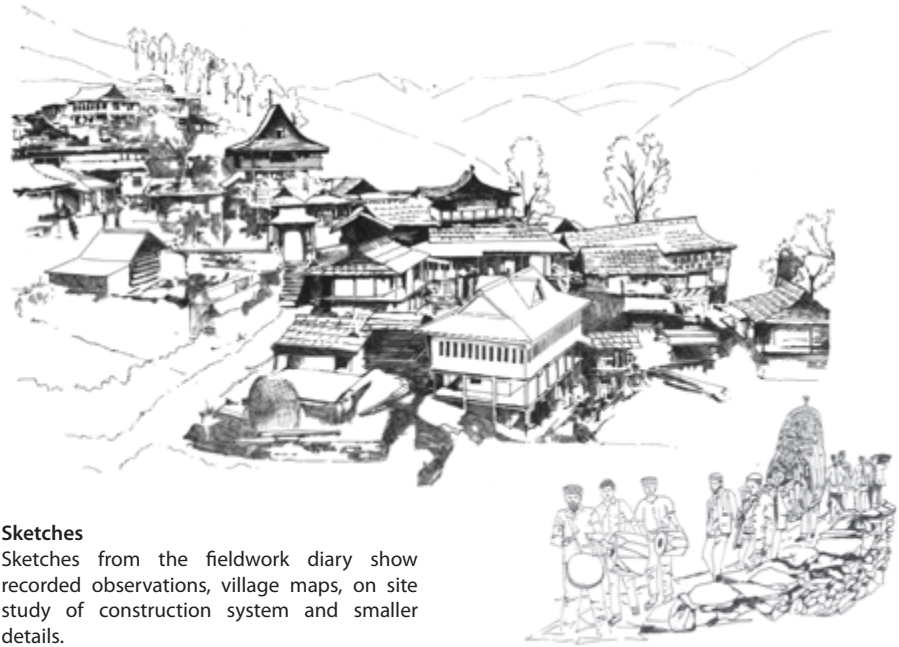
On-site investigation

During research fieldwork, diverse data were collected which included images, video and audio recordings, sketches, panoramic images, and recorded conversations with master carpenters and craftspeople, temple priests, inhabitants, academic scholars and others.

Audio- video recordings
On-site investigation involved audio-video documentation of on-site construction, interaction with craftspeople, overall villages, landscapes and details.

Photographic and panoramic documentation
Setting up photographic equipment for panoramic documentation of the Kamru fort and surroundings.

Discussions and notes
Engaging discussions with native Himachali people on life, construction, building techniques, traditions and more.



Sketches
Sketches from the fieldwork diary show recorded observations, village maps, on site study of construction system and smaller details.

Interaction with locals and *mistris*

B. S. Malhans (Shimla)

Raja Yogender Chand of Jubbal, Rajkumari Aditya Kumari and Tikka Anirudh Chand

Prof. Laxman Thakur (Shimla)

Dr. O.C. Handa (Shimla)

Pujari Nandlal Sharma (Janog)

Tikka Kirti Chand (Sainj)

Kunwar Anshuman Singh (Sainj)

Chenu Devi (Balag)

Rajaji of Ghodna, Ghodna

Jay Lal Vishwakarma (Sarahan-Chopal)

Charander Singh (Devidhar),

Kahanchandji (Devidhar)

Rajendra Singh (Devidhar)

Uday Singh (Gavas)

People of Gavas

Lekhraj Chauhan (Summerkot)

K.C Kaith (Pujarli7)

People of Pujarli 7

Weaver Manisukhji (Sangla)

Vidyaratan (Kamru)

Pitambar Negi (Kamru)

People of Sangla

K. C. Kaith (Pujarli 7)

Resident (Janog)

People of Chitkul

Artisan, Chitkul

Artisan (Chitkul)

Resident (Chitkul)

Children (Sangla)

People of Pujarli 7

Team at Sangla

People at Kamru

Team members at Nirath

Team members at Kamru fort

Himachali life and culture

The people of Himachal Pradesh have a rich culture which is very much apparent in their day to day lives. The practice of weaving, intricate wood-work, painting, rituals are so closely interwoven with their life.

Glimpses of places visited

Janog
A few kilometers east of Shimla toward Sainj in the Sutlej valley, a fork in the road ends up at Janog. It houses the distinctive Chikhadeshwara tower temple. It is located in a corner of an enclosed courtyard surrounded by an upper floor ringed with beautifully carved wooden panels.

Sainj
Strategically located along a gentle bend of the river in the middle of this landscape is the imposing *darbargarh* of the rajah of Theog.

Built in the traditional *kath-khuni* style, the building rises up on a rocky base with steps leading up to a platform that is ringed overhead with sacrificial horns. An interior courtyard reveals a very porous interior spatial fabric. The rough and rocky materials on the outside are replaced by fine woodwork inside.

Balag
Located on a hill, Balag is home to a beautiful traditional tower temple. After making way through narrow winding streets, the tower suddenly bursts into view, looming large against the farmland behind it.

Very close to the tower temple is located what must be an even older temple seat. Located inside an open courtyard are shikhara-style stone temples, one of which has been added on one side with a traditional roof.

Godhna
Sweeping around a hill-side road, a small climb brings into view a sprawling compound of Ghodna's *darbargarh* with an adjoining stretch of temple grounds. What remains of the panels and frames along the main wooden door entrance shows an amazing level of wood carving. The *darbargarh*, on the other hand, is a curious hybrid of traditional and colonial motifs and materials.

Sarahan (Chopal)
The village of Sarahan Chopal though tiny in size makes up in terms of what it has to offer. One famous trek that goes up to the hill. Another one winds through the village and a patch of pricey weeds continues to the distinctive and rare double towers of the Bijjat Devata Temple. The main entrance leads into an inner courtyard. The tower on the right with the wooden log with stepped notches is the older one, the other one is the latter addition to the complex.

Devidhar
The old temple (left) Sahav Khantu *Devata* Temple is built in the traditional *kath-khuni* style topped up with a tower.

The new temple under construction sits on a stepped base on a hill and faces a beautiful deodar tree. It is a treasure house for seeing, hearing and understanding ancient building practices with most welcoming crew at work on the temple site.

Gavas

The village of Gavas seems to appear out of nowhere with what must have been a vibrant and living community. It has spacious wooden houses with beautiful carvings visible even now. At the end of a winding street is a doorway that leads into a majestic complex of temples (Gudaru *Devata* Temple complex) and supporting structures. Parts of this complex are intact, others appear quite worn out adding to mysterious sense that envelopes the place.

Jubbal

Slightly aloof among the rapidly growing urban fabric sits the *Darbargarh* of the *rajah* of Jubbal. Its position and size makes it hard to miss from almost any vantage point in the valley. Sporting a distinct palette of colors and forms, the kot opens out on a terrace towards views of the gently rolling hills beyond. The kot has grown incrementally over time in layers. With a bank of rooms on multiple levels all around, the central courtyard houses a spartan tower temple, its presence is never far away from any corner inside. The lower terrace with its gardens and fragments of structures that survived still evoke shadows from another time.

Pujarli 4

Turns out that there are seven different villages that share the name Pujarli. Among these, Pujarli 4 houses a famous Rudra Devata Temple complex that appears quite old and continues some of the mystic rituals including divine consultations. The temple sits on one side of an approach courtyard and faces the distant hills and mountains on other sides.

Hatkoti

The temples of Hatkoti come into view from the approach roads as we descend into the valley. The temple compound is relatively large, houses two main temples in the traditional Himachali style located on either side of the bhandar building in the middle. Five shikhara-style stone temples are located along one of the edges of the compound.

Summerkot

Against the backdrop of low buildings, roofs and mountains in the distance, the tower temple of Summerkot stands out in the landscape. A series of steps through a gate rise up to a platform on which the tower stands. The surrounding terrace with wildly sprouting shrubs carry a sense of abandonment and neglect. However that is just surface reading- the fact that the building is now in the care of ASI suggests there is more to this tower partly reflected in the carefully restored external elements.

Pujarli 7

Some distance away from Summerkot on a hill lies another tower temple undergoing renovations. It has the looks, materials and building components that are clearly weathered. The multiple personas of such tower structures become visible here: a temple, a watchtower, a defense post, a fort … If local folklore are to be believed, there is much that hides in various levels inside the temple and among ruins scattered around Summerkot including water wells.

Rampur
In a narrow valley lies Rampur- a busy urban center with a palace on a sprawling ground that is slightly elevated from the national highway that just skirts around it. The Padam Palace is a curious mix of traditional and foreign motifs and materials.

Sangla
The approach to Sangla brings into view a terrace edged with modern shops and buildings that could be almost anywhere in a small town in India. The real village of Sangla though hides behind those shops along the slopes going down to the river. This is the place where very fine wood carvers are to be found carrying on generational traditions and craftsmanship. In between wooden buildings of Sangla lies a remarkable temple of Nag *Devata*.

Kamru
Visible from Sangla and higher up along the slopes is the famed village of Kamru. The steep climb opens out into a remarkable courtyard that is flanked on one side by the Hindu temple and on the two side by the Buddhist temple structures. The religious space is freely shared here signified by the central pavilion with beautiful carvings. A small narrow path winds up the hill to the old fort of Kamru. The high terrace on which the fort stands offers views along almost all the directions. The temples and buildings inside the fort grounds are quite aged, some undergoing renovations now.

Chitkul

The road east from Sangla continues along the old India Tibetan Highway leading to Chitkul, the last village of India along this highway. For a village that remains inaccessible during winter, Chitkul reflects a meeting ground of sorts of different cultures that cohabit these heights. The Hindu and Buddhist motifs overlap here, literally and figuratively.

Nirmand

A fork off the national highway winds up the mountains to the famed town of Nirmand. The first glimpses of the place are deceptive as there is a much older history to this place. A famed copper plate inscription, the legend of a warrior Brahmin Parashuram, and surviving fragments of wooden houses all conjure up a place with urban character. The few stone fragments and scale of houses suggests a vibrant settlement that existed at one point here that clearly outgrew the rural or mountain worldviews.

Nirath

Nirath is a tiny dot on the map along the national highway and is home to one of the very few temples dedicated to the Sun. The external walls of the stone temple feature some of the most intricate and beautiful sculptures. The motifs and faces that grace these walls suggest contemporaneity with the classical Indian canons and times. The inner courtyard contains many smaller shrines and fragments of stone and wooden carvings. A mandapa-like structure occupies one corner of the compound with beautifully carved wooded columns. A similar pavilions-like structure lies some distance away from the temple precinct.

Research and analysis

Panoramic Reconstruction

A series of images acquired by rotating camera by 15 degrees were taken to generate 360 degrees panorama.

Equipment set-up at Pujarli 4

Image tiles

Overlaid images

Blended image

Kamakshi Devi Temple/ Fort, Kamru

Bijjat Devata Twin Tower Temple, Sarahan

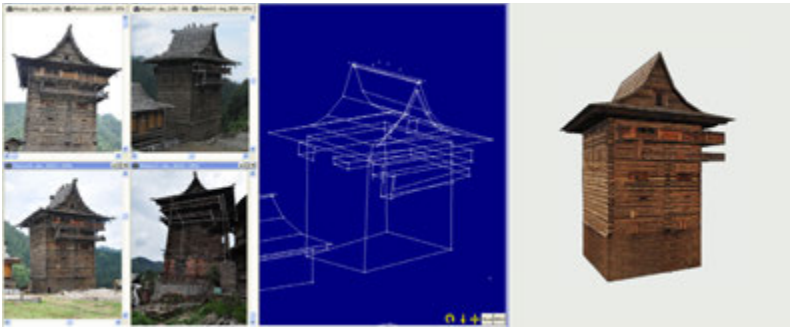
Interior of New temple contortion at Devidhar

Barakila Tower Temple, Chitkul

3D Reconstructions

Based on images gathered in the field, 3D reconstructions of objects and buildings were developed. These are examples of extracting 3D geometry with textures for Balag temple, another small temple, and volumetric model of Sainj durbargarh.

Kath-khuni building images from multiple view points.



This is the example of 3D model with texture-mapped on all surfaces from the images taken.

Tower Temple at Pujarli 7

Theog *darbargadh* at Sainj

Kamakshi *Devi* Temple/Fort at Kamru

Temple at Chopal (Sarahan)

Interactive 3D Models
Using image-based reconstruction techniques, visible surfaces of built volumes were extracted. This data was extrapolated to develop 3D geometry of buildings.

Padam Palace, Rampur

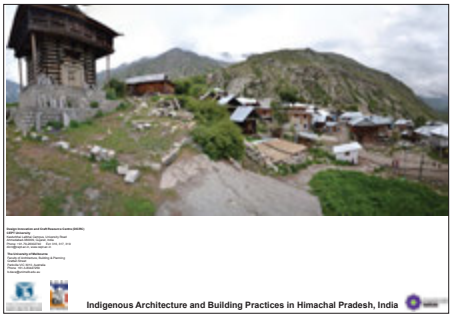
Tower Temple at Summerkot

Dissemination

Fieldwork Report

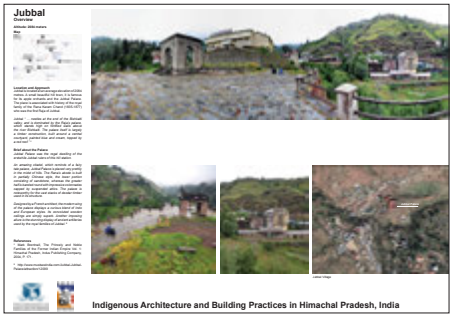
The research carried out in this project has been developed into a working report which has detailed information and photographs of all villages.

The report is available to download on http://himachal.crida.net/flip/field-report/HTML/



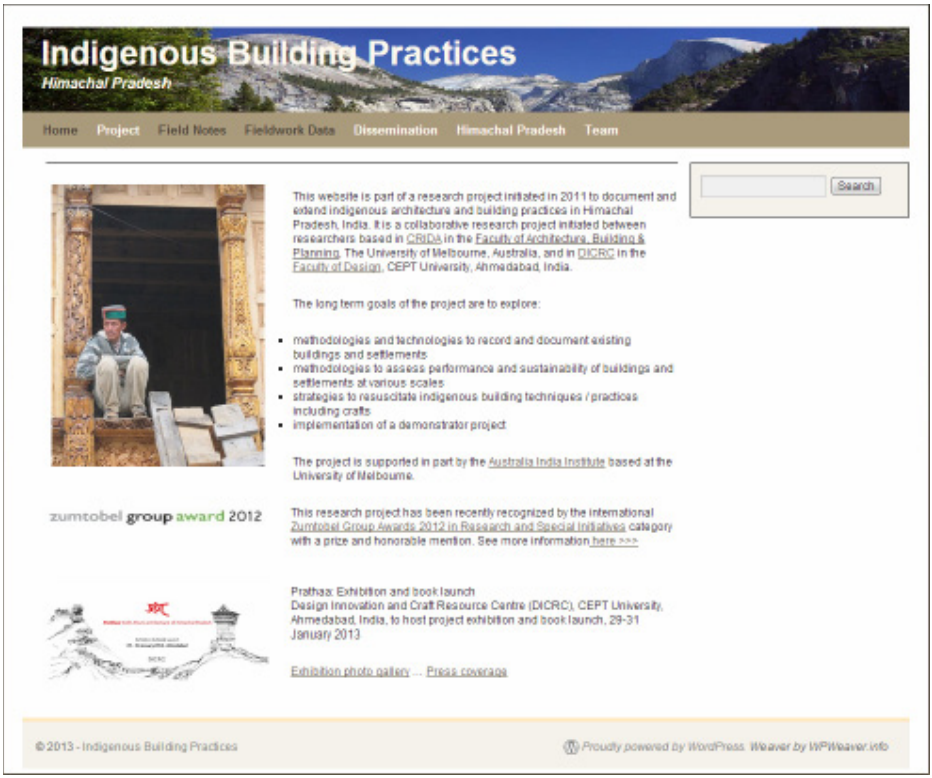
Balag
Temple and Details
Shiva temple, Tower temple
Indigenous Architecture and Building Practices in Himachal Pradesh, India

Pages from the fieldwork report



Website

An online website (http://himachal.crida.net/) that includes representative sample of data (i.e. images of sites, buildings, details, and their construction; audio and video clips of interviews; 360 degree panoramic reconstructions of sites; and three dimensional reconstruction of selected buildings). It is intended as a repository of documents and knowledge about vernacular architecture and building practices in Himachal Pradesh.


Indigenous Building Practices
Himachal Pradesh
Home
Project
Field Notes
Fieldwork Data
Dissemination
Himachal Pradesh
Team
Search
This website is part of a research project initiated in 2011 to document and extend indigenous architecture and building practices in Himachal Pradesh, India. It is a collaborative research project initiated between researchers based in CRIDA in the Faculty of Architecture, Building & Planning, The University of Melbourne, Australia, and in DICRC in the Faculty of Design, CEPT University, Ahmedabad, India.
The long term goals of the project are to explore:
methodologies and technologies to record and document existing buildings and settlements
methodologies to assess performance and sustainability of buildings and settlements at various scales
strategies to resuscitate indigenous building techniques / practices including crafts
implementation of a demonstrator project
The project is supported in part by the Australia India Institute based at the University of Melbourne.
zumtobel group award 2012
This research project has been recently recognized by the international Zumtobel Group Awards 2012 in Research and Special Initiatives category with a prize and honorable mention. See more information here >>>
Prathax: Exhibition and book launch
Design Innovation and Craft Resource Centre (DICRC), CEPT University, Ahmedabad, India, to host project exhibition and book launch, 29-31 January 2013
Exhibition photo gallery — Press coverage
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In one year we had a papers published in INTACH, CONTEXT, ABACUS and ARCHITHESE and articles in Domus and IA & B.

ABACUS (Monsoon 2011, Vol 6, No. 2, pp.14-20): *Indigenous Building Traditions of Himachal Pradesh*

Abstract

The traditional construction in Himachal Pradesh is a natural response to the availability of materials and local tools, guided by knowledge of forbidding geography, harsh climatic conditions and deeply embedded cultural practices of the region. The architecture that has evolved over a long period of time demonstrates profound understanding of constraints, local resources and the building science. The paper, on the basis of collaborative research and field work in Himachal Pradesh, highlights the native sensibility of the local builders, materials, traditional method of construction and subtle process of cultural transmission. This process exhibits simple yet satisfying ways in which locals and craftspeople of Himachal Pradesh have evolved vernacular architecture using a venerable building method called *kath-khuni* that is aesthetically pleasing, seismically sound and sustainable.

CONTEXT (Spring 2011, Volume IX, Issue 1, pp.5-17): *Details of Resistance: Indigenous Construction Systems in Himachal Pradesh*

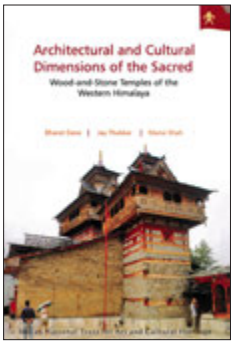
Abstract

A vernacular building technique called *kath-khuni* construction is widely encountered in the hills of Himachal Pradesh. It provides an effective mechanism for buildings to resist frequent seismic tremors that rock the landscape of Himachal Pradesh. This method of construction has been practiced and perfected with empirical knowledge over a long period time. This article describes various construction elements, materials and joinery details in the traditional *kath-khuni* construction and the resulting compositional richness in the making

of walls, openings, and corners. The paper highlights various sustainability and environmental responses embedded in this traditional building practice.

INTACH *Architectural and Cultural Dimensions of the Sacred: Wood-and-stone Temples of the Western Himalaya*

Publisher: INTACH, New Delhi
Language: English
ISBN: 978-93-82343-09-7



Abstract

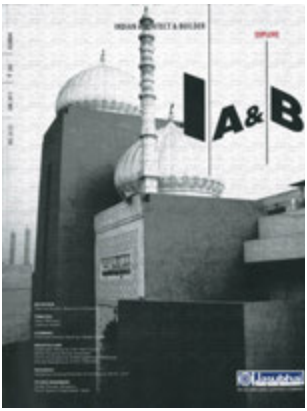
Himachal Pradesh is known also as the 'land of divine' or '*dev bhoomi*'. With its relative isolation and demanding climate, it fostered pockets of vibrant and distinctive cultural zones. The architecture of indigenous hill temples occupies a special place– both materially and spiritually, in the hills and is evident in a large number spread across the state. This paper focuses on indigenous hill temples of the western Himalayas especially hill temples. Their architecture is imbued with the character of hills and built by traditional craftspeople using local materials (timber and stone) and a technique known as *kath-khuni* (cator and cribbage) construction. This particular style of construction has evolved over a long period, handed down from generation to generation via oral lore and material practice. The tower temples reflect a profound synthesis of empirical building knowledge, rituals and space making craft skills resulting in fascinating architectural exemplars. This paper describes different facets of hill temples including construction techniques and their details, materials, associated beliefs and rituals, and special place of wood carving craft as an integral component of indigenous building knowledge and techniques.

ARCHITHESE (Monsoon 2011, Vol 6, No. 2, pp.14-20): *Being and Belonging in the Mountains: Indigenous Architecture of Himachal Pradesh, India*

Abstract

A distinctive legacy of indigenous building practices and associated crafts survives in the Himalayan hills in India. These traditions, on the one hand, represent specific material expressions and, on the other hand, encode specific symbolic and cultural associations. The assemblage of indigenous buildings and their making while discrete in material terms and finite in temporal terms reflects at a deeper level cultural choices about being and belonging in a particular landscape. Based on our fieldwork documentation of building practices in Himachal Pradesh, India, we discuss how indigenous architecture and associated crafts are underpinned by mutually reinforcing material conditions and practices, social and cultural beliefs, and permeability to external influences.that is aesthetically pleasing, seismically sound and sustainable.

Published articles



Getting to the root of it, IA&B 26 (5), January 2013, 112-121.

Prathaa: Exhibition, CEPT E-news magazine Vol. 2. No. 2, February 2013, 05

Prathaa: Kath-khuni architecture of Himachal Pradesh, Domus – India 16 (2), 5 March 2013, 17-18.

Gujarat Journal, Vol 6 No. 5, 15 February 2013, 29-30

Presentations

1) Presentation:

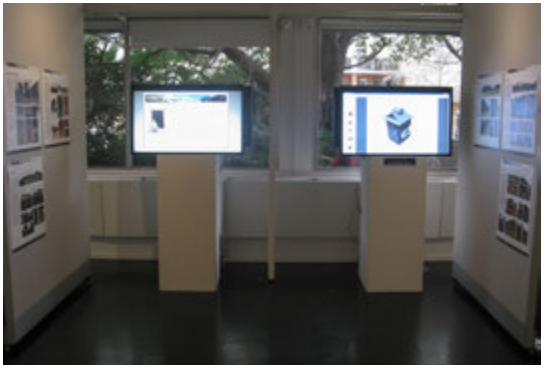
Indigenous Building Traditions of Himachal Pradesh: Bharat Dave, Tiffin Talks series, Australia India Institute, University of Melbourne, 26 August 2011.

2) Lecture:

Approaches to Digital Documentation of Spatial Environments': Bharat Dave, DICRC, Hutheessing Galery, CEPT University, Ahmedabad, 30th January 2011

Exhibition in Wunderlich Gallery

Exhibition '*Indigenous Building Practices in Himachal Pradesh, India*' demonstrating the distinctive building technique, *kath-khuni* construction prevalent in Himachal Pradesh, India was held in the Wunderlich Gallery, Ground Floor, Architecture Building from the 13 - 31 August 2012.



Exhibition display and interactive videos

Exhibition & book launch at Hutheesing Gallery

Prathaa: *Kath-khuni* architecture of Himachal Pradesh

The exhibition and book launch was held at Hutheesing Visual Art Centre, CEPT University, Ahmedabad, 29-31 January 2013

The three-day exhibition of "*Prathaa*: *Kath-khuni* architecture of Himachal Pradesh' included illustrative panels, video and interactive media. On Tuesday, 29th of January, architect Nimesh Patel inaugurated the book and Prof. Krishna Shastri (Dean, Faculty of Design, CEPT University) opened the exhibition.

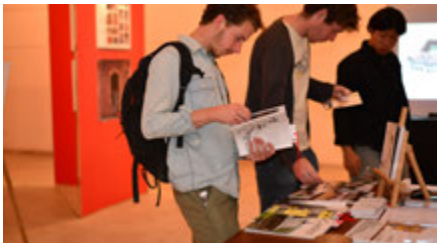
Talk by Authors
Prof. Bharat Dave, A/Prof. Jay Thakkar and Mansi Shah talk about their journey and documentation of Himachal Pradesh architecture.

Chief guest for the evening
On Tuesday, 29th of January 2013, Architect Nimish Patel inaugurated the book at the Hutheesing gallery, CEPT University

Inauguration
Exhibition opening by Prof. Krishna Shastri, Dean, Faculty of Design, CEPT University

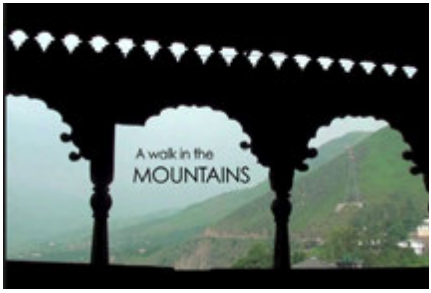
Exhibition display

The three-day exhibition of "*Prathaa: Kath-khuni* architecture of Himachal Pradesh' included illustrative panels, video and interactive media.



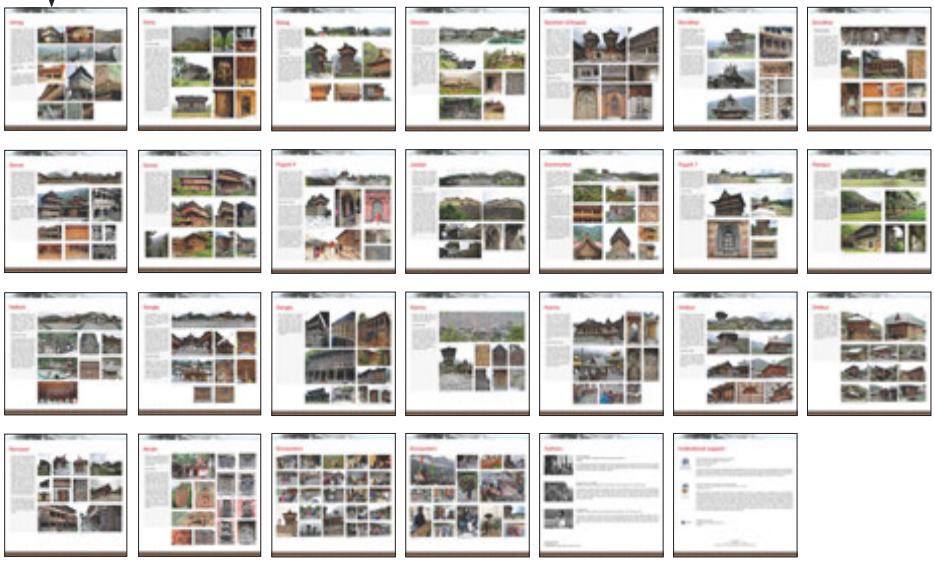
Panels
The panels were nailed on boards that assembled into an impressive exhibition unit. Each unit displayed panels on architecture of Himachal as well as interactive videos.

Fieldwork Video glimpse at the exhibition
'A walk in the mountains' is a small movie which presents a glimpse into the life of people living in Himachal Pradesh and showcasing the treasure of indigenous architecture. The video has been shot in the villages in Shimla and Kinnaur districts. We thank all the wonderful people and artisans for sharing their knowledge and moments with us.

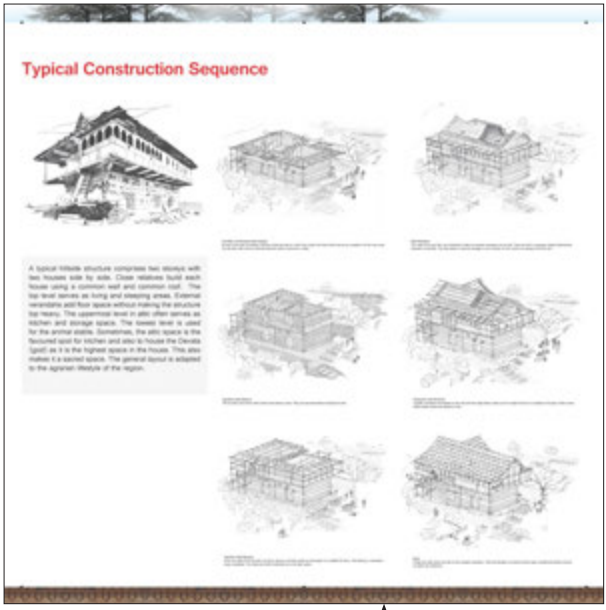


Exhibition display

Display Panels
The exhibit material included panels. These 27 panels (59 cm x 59 cm) are informative panels on 17 different villages which were visited during the field trip to Himchal Pradesh.



Display Panels
These set 12 panels (84 cm x 84 cm) are composed of construction set, field-route map, panoramic reconstructions, about the project, details, etc.



Exhibition- Press coverage

We enjoyed some great media coverage before, during and after the exhibition. This helped in reaching out to a wide variety of audiences interested in knowing about the project.

આર્કિટેક્ચર ઓફ હિમાચલ પ્રદેશ પર પ્રદર્શન

• **સિટી રિપોર્ટર**. અમદાવાદ

ડિઝાઈન ઈનોવેશન એન્ડ કાફટ રિસોર્સ સેન્ટર (ડીઆઈસીઆરસી), અને સેપ્ટ યુનિવર્સિટી દ્વારા ત્રણ દિવસીય પ્રદર્શન યોજવામાં આવ્યું છે. આ પ્રદર્શનમાં 'પ્રથા : કાટ-ખૂણી આર્કિટેક્ચર ઓફ હિમાચલ પ્રદેશ' નામના એક પુસ્તકનું વિમોચન કરવામાં આવશે.

મેલબોર્ન યુનિવર્સિટીના પ્રોફેસર ભરત દવે અને ડીઆઈસીઆરસીના પ્રોફેસર જય કક્કર તથા સંશોધક માનસી શાહદ્વારા 115 પાના ધરાવતું 'પ્રથા : કાટ-ખૂણી આર્કિટેક્ચર ઓફ હિમાચલ પ્રદેશ' પુસ્તક લખવામાં આવ્યું છે. હર્ઠિસિંગ વિઝ્યુઅલ આર્ટ સેન્ટર, સેપ્ટ યુનિવર્સિટી ખાતે આ પ્રથા નામના પ્રદર્શનનું 29 જાન્યુઆરીના રોજ સાંજે 5.30 વાગે સેપ્ટ યુનિવર્સિટીના ફેકલ્ટી ઓફ ડિઝાઈનના ડીન પ્રોફેસર ક્રિષ્ણા શાસ્ત્રી ઉદ્ઘાટન કરશે અને આજ દિવસે જાણીતા આર્કિટેક્ટ નિમેશ પટેલ દ્વારા પણ પુસ્તકનું વિમોચન કરવામાં આવશે.

આ પ્રદર્શન કાટ-ખૂણી બાંધકામ નામની મકાનના નિર્માણ માટેની એક આગવી અને અનોખી કળાના વિવિધ પાસાઓનો પરિચય કરાવાશે. આ પ્રથા ભારતના હિમાચલ પ્રદેશમાં પ્રચલિત છે. બાંધકામ માટેની આ સ્થાનિક પરંપરા સ્થાનિક માલસામાન અને કારીગરોનો ઉપયોગ કરીને કેવી રીતે દીર્ઘકાલીન સાબિત થાય એવી મકાન નિર્માણની કળા વિકસાવી શકાય છે તે દર્શાવે છે.

સેપ્ટ યુનિવર્સિટીના ડીઆઈસીઆરસી ખાતેના ડિઝાઈન વિભાગ અને ઓસ્ટ્રેલિયાની મેલબોર્ન યુનિવર્સિટીના આર્કિટેક્ચર વિભાગ દ્વારા સંયુક્ત રીતે આંતરરાષ્ટ્રીય સંશોધનની આ પ્રવૃત્તિ 2011માં શરૂ કરવામાં આવી હતી.

30મી જાન્યુઆરીના રોજ આ પ્રદર્શનના ભાગરૂપે પ્રોફેસર ભરત દવે દ્વારા 'એમોંગિસ ટુ ડિજિટલ ડોકયુમેન્ટેશન ઓફ સ્પેશ્રાલ એન્વાયરન્મેન્ટ્સ' વિષય પર એક વ્યક્તવ્ય આપવામાં આવશે, જેના અંતે 'લેન્ડ સ્કેપિંગ એન્ડ ડિવાઈન' નામની ફિલ્મ પ્રદર્શિત કરાશે. 31 જાન્યુઆરી સાંજના 4 થી 8 વાગ્યા સુધી આ પ્રદર્શન ખુલ્લું રહેશે.

City Bhaskar/ Divya Bhaskar 29 January 2013: 3. Print

Constructing History

BOOK LAUNCH An exhibition and book launch - Prathaa: Kath-Khuni architecture of Himachal Pradesh - was held at Hutheesing Visual Art Centre on Tuesday. Authored by Bharat Dave, Jay Thakkar and Manasi Shah, the book documents an indigenous building technique called the Kath-Khuni construction prevalent in Himachal Pradesh. There was a talk by architect Nimesh Patel following the launch. While the exhibition is on till January 31 from 4 to 8 pm, there is a lecture by Prof Bharat Dave on 'Approaches to Digital Documentation of Spatial Environments' besides a film screening 'Landscaping the Divine' by Molly Kaushal this evening.

"Constructing history" Ahmedabad Mirror 30 January 2013: 9. Print

City Bhaskar/ Divya Bhaskar 30 January 2013: 4. Print

હિમાચલનાં કાટ-ખૂણી આર્કિટેકની એક ઝાંખી

Bhagat, Chaitali. City Bhaskar/Divya Bhaskar 3 February 2013: 3. Print

Book on architectural practice launched

BOOK LAUNCH, TUESDAY, AHMEDABAD

A 3-day exhibition and book launch of Prathaz: Kath-Khuni architecture of Himachal Pradesh' was held on Tuesday at Hutheesing visual art centre. The book, which is a 155-page book, on indigenous building techniques for sustainable structures was launched by well-known architect Nimesh Patel and Prof Krishna Shastri in the exhibition presenting an overview on distinctive building technique was opened by Prof Krishna Shastri, faculty of Design, Cept. Prof Bharat Dave from the University of Melbourne, Asst Prof Jay Thakkar and researcher Mansi Shah has authored the book. The project aims to help preserve and sustain kath-khuni building techniques & local skills by undertaking collaborative research on existing and emerging building practices.

"Book on architectural practice launched" DNA 30 January 2013: 4. Print

પુસ્તક લોન્ચિંગ

આર્કિટેક્ટ નિમેષ પટેલ દ્વારા 'પ્રથા : કાઠખૂની આર્કિટેક્ચર ઓફ હિમાચલ પ્રદેશ'નું પુસ્તક વિમોચન કરવામાં આવ્યું હતું.

હિમાયલનું સ્થાપત્ય પુસ્તકમાં

પુસ્તક લોન્ચિંગ સાથે પુસ્તકનું એક્ઝિબિશન

Gujarat Samachar 30 January 2013: 3. Print

Promoting indigenous building practices

(Clockwise) Bharat Dave, Mansi Shah and Jay Thakkar.

Ancient techniques to construct sustainable structures researched & documented in a book

Hina Nainani

Indigenous building practices and teaching and exploration of alternative design strategies have been studied and documented by three researchers and presented in a book.

Prof Bharat Dave from the University of Melbourne, asst prof Jay Thakkar and researcher Mansi Shah from Design Innovation and Craft Resource Centre (DICRC), Centre for Environmental Planning and Technology (CEPT) University, have authored 'Prathaz: Kath-khuni architecture of Himachal Pradesh' a 155-page book.

The book is going to be launched on Tuesday with a three-day exhibition that will present an overview of the distinctive building technique.

The book launch will be inaugurated by well-known architect Nimesh Patel and Prof Krishna Shastri (dean, faculty of design, CEPT University) will open the exhibition at Hutheesing Visual Art Centre. On the second day of the exhibition, DICRC will host a lecture by Prof Bharat Dave on Approaches to Digital Documentation of Spatial Environments' which will be followed by a film 'Landscaping the Divine' by Molly Kaushal. The objective of the project was to research and disseminate knowledge about locally rooted sustainable building practices in Himachal Pradesh. The plan is to develop a resource centre of native building crafts. "Our project aims to help preserve and sustain kath-khuni building techniques and local skills by undertaking collaborative research on existing and emerging practices," explains Shah.

'Kath-khuni' technique basically uses local materials like stone and wood to construct. This indigenous style of construction technique is both practical and aesthetically pleasing. By the systematic process of layering and interlocking the locally available timber and stone materials, the construction becomes inherently strong, stable and flexible to make it suitable for mountainous terrain that is prone to earthquakes," explains Thakkar.

Nainani,Hina "Promoting indigenous building practices" DNA 29 January 2013: 3. Print

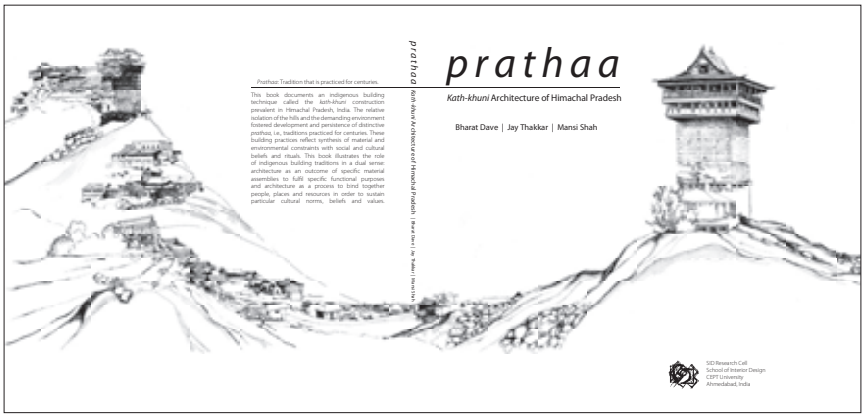
Sandesh TV (video): 31 Jan 2013

Book: Prathaa

***Prathaa*: *Kath-khuni* architecture of Himachal Pradesh**

Authors: Bharat Dave, Jay Thakkar, Mansi Shah
Publisher: SID Research Cell, CEPT University, Ahmedabad, 2013
ISBN: 9788190409681
ISBN-13: 978-8190409681
Paperback: 156 pages
Language: English
The book is available to purchase on Amazon.com

This book documents an indigenous building technique called the *kath-khuni* construction prevalent in Himachal Pradesh, India. The relative isolation of the hills and the demanding environment fostered development and persistence of distinctive *prathaa*, i.e., traditions practiced for centuries. These indigenous building traditions reflect synthesis of material and environmental constraints with social and cultural beliefs and rituals. This book illustrates the role of indigenous building traditions in a dual sense: architecture as an outcome of specific material assemblies to fulfil specific functional purposes and architecture as a process to bind together people, places and resources in order to sustain particular cultural norms, beliefs and values.

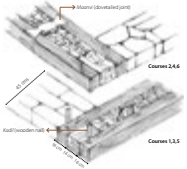

prathaa
Kath-khuni Architecture of Himachal Pradesh
Bharat Dave | Jay Thakkar | Mansi Shah
Prathaa: Tradition that is practiced for centuries.
This book documents an indigenous building technique called the kath-khuni construction prevalent in Himachal Pradesh, India. The relative isolation of the hills and the demanding environment fostered development and persistence of distinctive prathaa, i.e., traditions practiced for centuries. These building practices reflect synthesis of material and environmental constraints with social and cultural beliefs and rituals. This book illustrates the role of indigenous building traditions in a dual sense: architecture as an outcome of specific material assemblies to fulfil specific functional purposes and architecture as a process to bind together people, places and resources in order to sustain particular cultural norms, beliefs and values.
SID Research Cell
School of Interior Design
CEPT University
Ahmedabad, India

101. *Kath-khuni* wall construction. Dry masonry wood-and-stone wall of a temple under construction in Devidhar. This infill is filled with stone rubble.

pins. The outer faces of the wall as well as the corner often have specially shaped large stone pieces at the corner. This piece apart from protecting the wood also, according to local beliefs, helps to ward off evil. When the solid load bearing walls are built above the plinth level, the stone pieces are arranged in an alternating manner strengthening the corners with staggered joints, both diagonally and laterally imparting strength. As the wall rises up, the height of the stone layer decreases and ultimately it is only the wood beams stacked on top of each other with an upper wooden structure.

The framework of this wood-and-stone wall is the key characteristic of *kath-khuni* construction. This method of non-rigid framework and dry masonry construction helps in dissipating energy during earthquake and ground movements.

102a-c). Wall construction. a. Carpenter fixing a wooden log in the wall construction in a house at Devidhar. **b.** Two parallel crossbeams are held in place by a dovetailed wooden member called masonu. The gap between the beams is filled with stone rubble which acts as insulation and gives mass to the wall. **c.** Side view of the temple wall under construction.



103. Wall courses. The corner of the wall is constructed in alternate courses of wood-and-stone. The space between two wooden members is filled with rubble and edge is secured by kasth (wooden nail).

104. Wall corner. The perpendicular wooden members are pinned in position with a kasth (wooden nail), well interlocked at the corners allowing flexibility for some movement during earthquake.

Construction processes

40(a-c). Gavas. a. Densely-loomed landscape around Gavas. **b.** Fragment of the carved facade of a kath-khuni house. **c.** A small wooden house perches on the rugged landscape.

41. The main temple building of Gudara Devata. The temple is layered with various smaller structures articulated in a stunted fashion over a pyramid of nine Tiers all reliefed exquisite wood work and carvings.

Gavas

Gavas is one of the villages in the Chashara Mandal in the Shimla District. It is a village rich with many wooden structures and lies in a remote part of the mountains. Due to its relative isolation, the houses here still reflect, authentic building traditions, which remain unchanged unlike many other smaller hamlets where changes due to external contacts and exposure have seeped in.

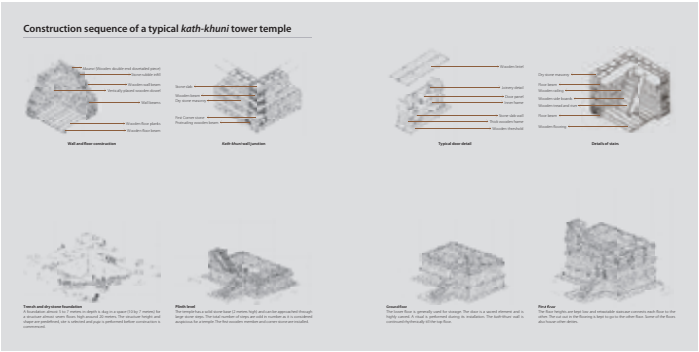
Gavas has a number of magnificent houses built using typical *kath-khuni* construction techniques. Some houses are very old and have arched facades that are profusely carved. Most of the houses are two storey structures. The lower level is typically used as gaushala (animal shed) and the upper level is used mainly for living spaces usually accessible via a separate entry. The upper floor projects outwards on all sides and has a typical 3 semi-covered gallery that encircles the living spaces. This transition space between public and private areas is typically finished with carved wooden panels and arched openings.

Gudaru Devata Temple

This isolated village houses one of the most beautiful and profusely carved complexes of wood-and-stone temple. The detail, execution and quality of woodcarving found here are highly dexterous in expression and execution.

44. Gudaru Devata Temple. Panoramic view of the temple complex showing various types of buildings all employing *kath-khuni* construction technique.

Detail of the village - Gavas



Construction sequence of Typical *Kath-khuni* Tower Temple

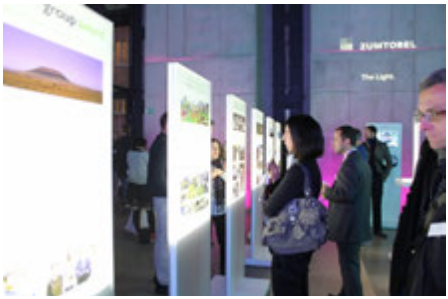
Award

Zumtobel Group Award 2012

This research project has been recently recognized by the international Zumtobel Group Awards 2012 in Research and Special Initiatives category with a prize and honourable mention.

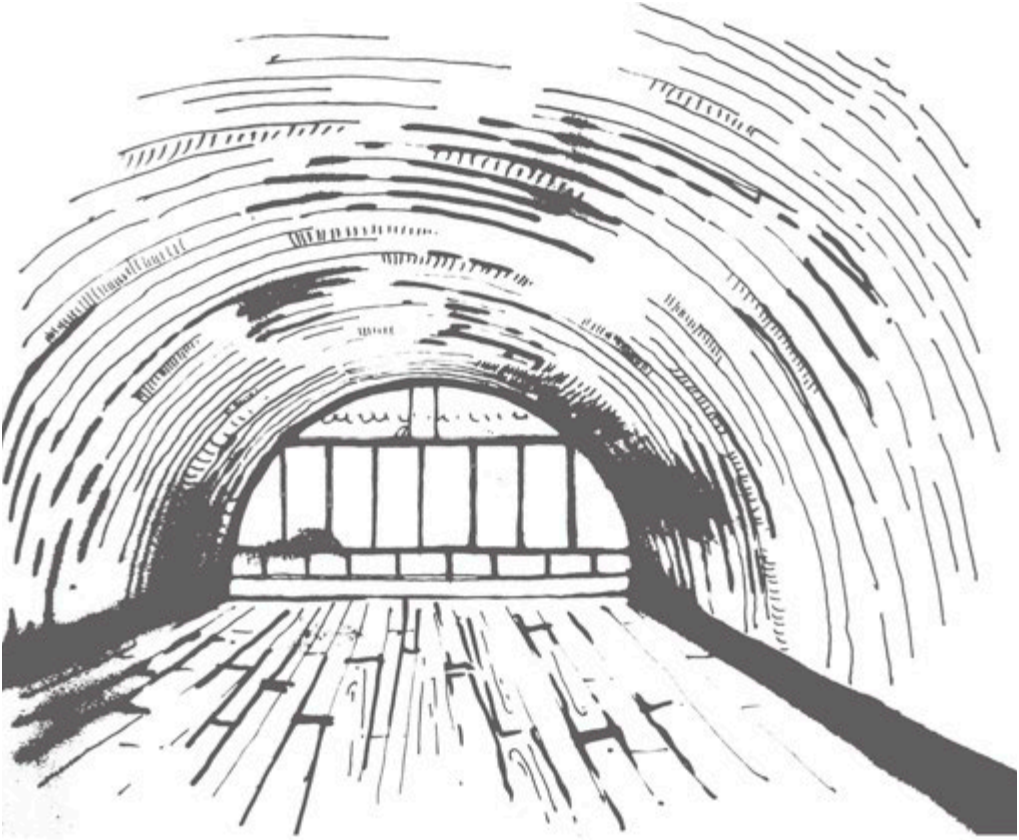
Presentation ceremony

The presentation ceremony was held in Berlin/ Dornbirn, Germany on 16th November, 2012. We thank Rudrapal Solanki who received the award on behalf of the project team.



Panel display
The award 'Research and Initiative' was dedicated to emphasize innovative current research project in architecture and built environment.

Award ceremony and exhibition
Prominent international experts from a variety of disciplines make up the jury.



For more information visit www.dicrc.in

Design Innovation and Craft Resource Centre (DICRC), CEPT University, Ahmedabad
Contact :+079-26302470 Ext- 380, 381 , email: dicrc@cept.ac.in

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